UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,266	03/10/2004	Yu Deng	200314604-1	5355

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EXAMINER
SOMERS, MARC S

ART UNIT	PAPER NUMBER
2169	

NOTIFICATION DATE	DELIVERY MODE
08/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 June 2008_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _11-20_ is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _11-20_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☐ All   b)☐ Some *   c)☐ None of:
         1.☐ Certified copies of the priority documents have been received.
         2.☐ Certified copies of the priority documents have been received in Application No. _____.
         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on June 4, 2008, PROSECUTION IS HEREBY

REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the

following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by

signing below:

/James K. Trujillo/

Supervisory Patent Examiner, Art Unit 2169.

Claims 11-20 are pending where claims 11-20 were previously presented and

claims 1-10 and 21-25 are withdrawn from consideration.

Specification

2.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: "computer readable medium".

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 11-12 and 15-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Cui et al [WO 03/030025 A1] in view of Ardoin et al [US 5,692,184]

and Bonatti et al, *An Ontology-Extended Relational Algebra*.

5.   With regard to claim 11, Cui teaches a functional relationship between one or

more objects of distinct ontologies in a metadata system (see lines 8-10 on page 6 and

lines 17-20 on page 10; a mapping is performed between the different/distinct

ontologies where a conversion function is used in connection with the mapping of the

distinct ontologies).

6.   Cui does not explicitly teach generating a node to represent a functional

relationship between one or more objects of distinct ontologies in a metadata system;

associating an expression of the functional relationship to the node; and associating one

or more parameters of the functional relationship to the node.

7.   Ardoin and Bonatti teach generating a node to represent a functional relationship

between one or more objects of distinct ontologies in a metadata system (see Ardoin,

col 6, lines 49-65; a node is generated that represents a functional relationship between

different values; see Bonatti, the first two paragraphs under section 2.1 on page 192

and the first two paragraphs in the right column on page 196; conversion functions can

be used to convert between different currencies from different ontologies);

        associating an expression of the functional relationship to the node (see Ardoin,

col 6, lines 49-65; a function/expression is associated with the function node, see

Figures 6 and 7 for examples of expressions);

        and associating one or more parameters of the functional relationship to the node

(see Ardoin, col 6, lines 39-48 and Figures 6 & 7; values nodes are used as input

parameters to the expression/functional relationship).

8.   It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the mapping server of Cui by using function

nodes to keep track of the functional relationship between the different ontologies when

using the conversion function as taught by Ardoin and Bonatti in order to maintain data

integrity when an object/data is modified between the different database and their

respective ontologies.

9.   With regard to claim 18, this claim is substantially similar to claim 11 and is

rejected for the same reasons as discussed above. The only difference between claim

11 and 18 is that claim 18 recites a computer readable medium (see Ardoin, Figure 3,

RAM 66 and Disk Drive 67).

10.   With regard to claims 12 and 19, Cui in view of Ardoin and Bonatti teach

associating a dependency chain representing the dependent relationships between

properties of a parameter path associated with the one or more parameters of the

functional relationship (see Ardoin, col 5, line 59 to col 6, line 3; dependency relations

are identified and are used to by building one dependency relation upon another).

11.   With regard to claim 15, Cui in view of Ardoin and Bonatti teach identifying

mappings between dependency chains spanning the distinct ontologies (see Cui, lines

18-20 on page 10; mappings between different/distinct ontologies are identified).

12.   With regard to claim 16, Cui in view of Ardoin and Bonatti teach utilizing

heuristics to suggest alternative mappings between dependency chains (see Cui, lines

4-8 on page 9; heuristics executed by computers/machines are used to suggest

possible/alternative mappings between the distinct ontologies).

13.   With regard to claim 17, Cui in view of Ardoin and Bonatti teach maintaining the

mappings that span the distinct ontologies when one of the distinct ontologies is

modified (see Cui, lines 10-15 on page 9; when creating mappings between ontologies,

if an ontology has been modified the system determines whether they can re-use a

previous mapping, i.e. by reviewing the library of mappings and determine which

previous mappings can be re-used).

14.   Claims 13-14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Cui et al [WO 03/030025 A1] in view of Ardoin et al [US 5,692,184] and Bonatti et

al, *An Ontology-Extended Relational Algebra* in further view of W3C, *Resource*

Description Framework (RDF): Concepts and Abstract Syntax.

15.   With regard to claim 13, Cui in view of Ardoin and Bonatti teach all the limitations

of claim 11 as discussed above.

16.   Cui in view of Ardoin and Bonatti teach generating a resource but do not explicitly

teach the aggregating of a local name, type, and dependency chain.

17.   W3C teaches generating a resource (see first paragraph on page 8 of 27 in

section 3.2; nodes/resources are created/generated) that aggregates a local name, type

(see second paragraph in section 3.5 on page 11 of 27; nodes can be aggregated with

rdf:type property which is a type as well as a name such as a predicate/column name),

and dependency chain (see Ardoin, col 5, line 57 to col 6, line 3; a dependency

relation/chain is associated/aggregated with the nodes).

18.   It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the mapping server of Cui in view of Ardoin and

Bonatti by using RDF graphs as a mapping of the distinct ontologies as taught by W3C

in order to take advantage of a standard syntax that is used to represent information.

19.   With regard to claim 14, Cui in view of Ardoin and Bonatti teach all the limitations

of claim 11 as discussed above.

20.   Cui in view of Ardoin and Bonatti teach generating a resource but do not explicitly

teach generating a resource that aggregates a type and a dependency chain and that is

associated to a name through an explicit mapping.

21.   W3C teaches generating a resource (see first paragraph on page 8 of 27 in

section 3.2; nodes/resources are created/generated) that aggregates a type (see

second paragraph in section 3.5 on page 11 of 27; nodes can be aggregated with

rdf:type property which is a type) and a dependency chain (see Ardoin, col 5, line 57 to

col 6, line 3; a dependency relation/chain is associated/aggregated with the nodes) and

that is associated to a name through an explicit mapping (see Cui, lines 4-6 on page 9;

an explicit mapping/correspondence can be made by a human when mapping between

distinct ontologies).

22.   It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the mapping server of Cui in view of Ardoin and

Bonatti by using RDF graphs as a mapping of the distinct ontologies as taught by W3C

in order to take advantage of a standard syntax that is used to represent information.

23.   With regard to claim 20, Cui in view of Ardoin and Bonatti teach all the limitations

of claim 18 as discussed above.

24.   Cui in view of Ardoin and Bonatti do not explicitly teach generating a blank node

that aggregates a local name, type, and dependency chain.

25.   W3C teaches generating a blank node (see second to last paragraph on page 8

of 27 in section 3.2; blank nodes are created) that aggregates a local name, type (see

second paragraph in section 3.5 on page 11 of 27; nodes can be aggregated with

rdf:type property which is a type as well as a name such as a predicate/column name),

and dependency chain (see Ardoin, col 5, line 57 to col 6, line 3; a dependency

relation/chain is associated/aggregated with the nodes).

26.   It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the mapping server of Cui in view of Ardoin and

Bonatti by using RDF graphs as a mapping of the distinct ontologies as taught by W3C

in order to take advantage of a standard syntax that is used to represent information.

Response to Arguments

27.   Applicant's arguments (see section "VII. ARGUMENT", subsection "A. Support

for 'computer readable medium'" on page 10) have been fully considered but they are

not persuasive. The applicant asserts that the term "computer readable medium" is

ascertainable based on the description in paragraphs [0016] through [0018] related to

memories 110 and 112 as shown in Figure 1. The Examiner can guess that the

memory types recited in the paragraphs are examples of computer readable medium;

however, the applicant has not indicated that the computer readable medium recited in

the claims is synonymous with the memory recited in paragraph [0016]. There are

many forms of computer readable medium and the claims may be directed to those

other forms including transmission media and punch cards or paper. The applicant is

advised to make the record clear by providing antecedent basis to the claim terminology

or by amending the claims to use terminology that does have antecedent basis in the

specification such as the term "memory".

28.   Applicant's arguments (see section "VII. ARGUMENT", subsection "B. 103

Rejections'" on page 10 through the last paragraph of section "1. Claims 11-12, 15 and

17-19" ending on page 13) with respect to the rejection(s) of claim(s) 11-12, 15, and 17-

19 under Spring in view of Schmit have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a

new ground(s) of rejection is made under Cui, Ardoin, and Bonatti.

29.   The applicant argues in the last paragraph on page 10 that the Spring and

Schmit references do not teach the "functional relationship" as recited in the

independent claims. The Examiner agrees with the applicant's arguments. The

rejection to these claims has been withdrawn. With regard to the remaining arguments,

the applicant argues that the phrase "mapping metadata to a metamodel" used by

Schmit is not analogous to the functional relationship as recited in the independent

claim. The Examiner agrees with the applicant's arguments. Although the terminology

used by Schmit is similar to the terminology used by the applicant the

purpose/functionality of the terms between Schmit and the applicant are different

therefore the Examiner has withdrawn the rejection to the independent claims.

30.   The applicant argues in the last paragraph of page 11 that the Examiner has not

clearly articulated the reasons as to "why it would have been obvious to combine Spring

and Schmit as is required". The Examiner respectfully disagrees. The previous Office

action presented an articulated reasoning for obviousness and even cited a prior art

reference which supports their statements.

31.   The applicant argues in the first full paragraph on page 12 that the rejection for

claim 18 should be withdrawn for similar reasons presented with regard to claim 11.

The Examiner agrees therefore the rejection has been withdrawn.

32.   The applicant argues in the second to last paragraph on page 12 that the

rejections for claims 12 and 19 should be withdrawn for depending upon claims 11 and

18 respectfully and also that the references do not teach dependency chains. The

Examiner agrees with the applicant therefore the rejection has been withdrawn.

33.   The applicant argues in the last paragraph on page 12 that the rejection for claim

15 should be withdrawn for depending upon claim 11 and also that the cited references

do not teach all the claim limitations. The Examiner agrees therefore the rejection has

been withdrawn.

34.   The applicant argues in the second paragraph on page 13 that the rejection for

claim 17 should be withdrawn for depending upon claim 11 and also that the cited

references do not teach all the claim limitations. The Examiner agrees therefore the

rejection has been withdrawn.

35.   Applicant's arguments (see section "VII. ARGUMENT", subsection "B. 103

Rejections'", sub-subsection "2. Claims 13-14 and 20" on page 13 through the second

to last paragraph on page 14) with respect to the rejection(s) of claim(s) 13-14 and 20

under Spring in view of Schmit and Heh have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a

new ground(s) of rejection is made under Cui, Ardoin, and Bonatti in view of W3C.

36.   The applicant argues in the last paragraph on page 13 that the rejection for claim

13 should be withdrawn for depending upon claim 11 and also that the cited references

do not teach all the claim limitations, in particular the dependency chains. The

Examiner agrees therefore the rejection has been withdrawn.

37.   The applicant argues in the second paragraph on page 14 that the rejection for

claim 14 should be withdrawn for depending upon claim 11 and also that the cited

references do not teach all the claim limitations. The Examiner agrees therefore the

rejection has been withdrawn.

38.   The applicant argues in the third paragraph on page 14 that the rejection for

claim 20 should be withdrawn for depending upon claim 18 and also that the cited

references do not teach all the claim limitations. The Examiner agrees therefore the

rejection has been withdrawn.

39.   Applicant's arguments (see section "VII. ARGUMENT", subsection "B. 103

Rejections'", sub-subsection "3. Claims 16" on page 14) with respect to the rejection(s)

of claim(s) 16 under Spring in view of Schmit, Heh, and Kalavade have been fully

considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made under Cui,

Ardoin, and Bonatti.

40.   The applicant argues in the last paragraph on page 14 that the rejection for claim

16 should be withdrawn for depending upon claim 18 and also that the cited references

do not teach all the claim limitations. The Examiner agrees therefore the rejection has

been withdrawn.

Conclusion

41.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Carroll [US 2004/0098670 A1] and Wilbanks [US 2003/0018616

A1].

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARC SOMERS whose telephone number is (571)270-

3567. The examiner can normally be reached on 8 am - 4 pm EST Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, James Trujillo can be reached on (571) 272-3677. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. S./   /James K. Trujillo/
Examiner, Art Unit 2169   Supervisory Patent Examiner, Art
MS   Unit 2169
8/6/2008